

REMARKSI. Introduction

In response to the Office Action dated January 4, 2006, claims 1, 16 and 30 have been amended. Claims 1-43 remain in the application. Re-examination and re-consideration of the application, as amended, is requested.

II. Specification Objections

In paragraph (1) of the Office Action, the specification was objected to because of the missing serial numbers for the cross-referenced applications.

Applicants' attorney has made amendments to the specification as indicated above to overcome these objections.

III. Prior Art RejectionsA. The Office Action Rejections

In paragraphs (2)-(3) of the Office Action, claims 1-13, 16-28, and 30-42 were rejected under 35 U.S.C. §102(e) as being anticipated by Fuisz et al., U.S. Patent No. 6,718,310 (Fuisz). In paragraphs (4)-(5) of the Office Action, claims 14-15, 29, and 43 were rejected under 35 U.S.C. §103(a) as being unpatentable over Fuisz in view of Biller, U.S. Publication No. 2003/0018514 (Biller).

Applicants' attorney respectfully traverses these rejections.

B. The Applicants' Independent Claims

Independent claims 1, 16 and 30 are directed to performing customer management relationship processing in a computer. Claim 1 is representative, and comprises the steps of: (a) accessing customer transaction data from a database managed by the computer; and (b) performing a pattern detection function in the computer using the customer transaction data accessed from the database, wherein the pattern detection function finds patterns in customer purchasing behavior, as evidenced by the customer transaction data, related to a sequence of when purchases occur, by comparing a focal product set to an analysis product set using a time frame for an initial focal product set purchase, and a number of time intervals for one or more analysis product set purchases before and after the initial focal product set purchase.

C. The Fuisz Reference

Fuisz describes methods that provide for auditing of on-line commercial transactions to determine what products are the primary motivations for a customer to begin an on-line shopping session. When a purchase is made during a shopping session, the method determines whether a purchased product is related to a previous "prime motivator" product. If so, the product is designated as a derivative product and a derivative count associated with the product is incremented. If not, the product itself is designated a prime motivator product and a prime motivator count associated with the product is incremented. The method may be repeated for every purchase fielded by an on-line commercial site.

D. The Billet Reference

Billet describes a method and system for forecasting using pattern recognition and extension software. Models of the present invention select patterns from a library that match historical data and extend them into the future to make forecasts that can be used with a variety of predictive technologies.

E. Applicants' Independent Claims Are Patentable Over The References

Applicants' invention, as recited in independent claims 1, 16 and 30, is patentable over the Fuisz and Billet references, because the claims recite limitations not found in the references.

Nonetheless, the Office Action asserts that Fuisz teaches all of the elements of the independent claims, as well as the elements of dependent claims 2-13, 17-28 and 31-42, while the combination of Fuisz and Billet teaches the limitations of dependent claims 14-15, 29 and 43.

Applicants' attorney disagrees.

Applicants' independent claims have been amended to recite "performing a pattern detection function ... using the customer transaction data ... [to find] patterns in customer purchasing behavior ... by comparing a focal product set to an analysis product set using a time frame for an initial focal product set purchase, and a number of time intervals for one or more analysis product set purchases before and after the initial focal product set purchase." It is these amendments that distinguish the Applicant's invention from the cited references.

Fuisz, on the other hand, merely describes, in FIG. 6, and at column 7, lines 10-28, simpler uses of recorded times of purchases:

FIG. 6 illustrates another method 5000 according to an embodiment of the present invention. According to method 5000, prime motivator products may be identified based upon the times between product purchases. According to the embodiment, the method 5000 records the time of the beginning of a shopping session and the time of each product purchase (Steps 5010, 5020). At the conclusion of the shopping session, for each purchased product, the method 5000 determines an incremental time of purchase measured as the time between the most recent preceding purchase (Step 5030). The first purchased product is designated a prime motivator product. Also, purchased products may be designated as prime motivator products if their associated incremental time of purchase is greater than the average time between purchases (Step 5040). All other products are designated derivative products. The method increments the prime motivator counts and derivative counts of the purchased products in the product database 140.

Consider the method 5000 in operation using the exemplary purchases illustrated below in Table 1. The table identifies seven purchases. Table 1 below records the times of purchase of each of the products and also the incremental time of purchase for each product.

As shown in the table, the average time between purchases is 1.87 minutes. Two of the seven products, shampoo and bandages, have incremental times of purchase that are greater than the average time between purchases. Accordingly, the shampoo, the bandages (and also the Tylenol) all are designated as prime motivator products under the method 5000 of FIG. 6. The remaining products are designated derivative products.

TABLE 1

Product	Time of Purchase	Incremental Time of Purchase	Prime Motivator or Derivative?
Tylenol	1 min.	1	Prime Motivator
Thermometer	2 min.	1	Derivative
Shampoo	7 min.	5	Prime Motivator
Conditioner	8 min.	1	Derivative
Hairbrush	9 min.	1	Derivative
Bandages	12 min.	3	Prime Motivator
Topical Antibiotic	13 min.	1	Derivative

Average Time Between Purchases 1.86

The method 5000 of FIG. 6 may be optimized further to account for the standard deviation of times between product purchases. In this optimization, products may be designated prime motivators if their associated incremental times of purchase are greater than the average time between purchases plus the standard deviation of the time between purchases. In the example of Table 1, the standard deviation of the seven purchases is 1.57 minutes. Under this optimization, purchases would be designated prime motivators if the incremental time of purchase is greater than 3.43 minutes (1.86+1.57 minutes).

According to an embodiment, the method 5000 of FIG. 6 will be used when there are a sufficient number of purchased products from which useful statistical

values may be derived. If, for example, a shopping session were to include only two purchases, it may be preferable to invoke a method from FIG. 1 or 2 to identify prime motivator products. Thus, the method 5000 optionally may include a step of determining whether the number of purchases exceed a predetermined threshold (Step 5050). If not, then the method may call one of the methods 1000, 2000 of FIG. 1 or 2.

In the portions set forth above, Fuisz does not teach or suggest the claim limitations directed to "comparing a focal product set to an analysis product set using a time frame for an initial focal product set purchase, and a number of time intervals for one or more analysis product set purchases before and after the initial focal product set purchase."

Specifically, nowhere does Fuisz describe anything related to the time intervals before a prime motivator (i.e., focal product set). Instead, Fuisz only looks at incremental times of purchases following the prime motivator purchase.

For example, the above portions of Fuisz states that the first purchased product is always designated a prime motivator product, and that purchased products may also be designated as prime motivator products if their associated incremental time of purchase is greater than the average time or standard deviation of times between purchases. According to Fuisz, all other products are designated derivative products (i.e., analysis product set).

Billet fails to overcome these deficiencies of Fuisz. Recall that Billet was cited only against dependent claims 14-15, 29 and 43. Further, Billet was cited only for teaching the use of customer segments, and specifying a customer level to determine how to aggregate customer transaction data.

Thus, Applicants' attorney submits that independent claims 1, 16 and 30 are allowable over the Fuisz and Billet references. Dependent claims 2-15, 17-29 and 31-43 are submitted to be allowable over the Fuisz and Billet references in the same manner as the independent claims, because they are dependent on independent claims 1, 16 and 30, respectively, and thus contain all the limitations of the independent claims. In addition, dependent claims -15, 17-29 and 31-43 recite additional novel elements not shown by the Fuisz and Billet references.

#### IV. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited.

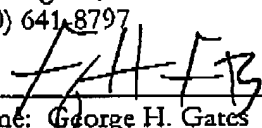
Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,

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